QLUB
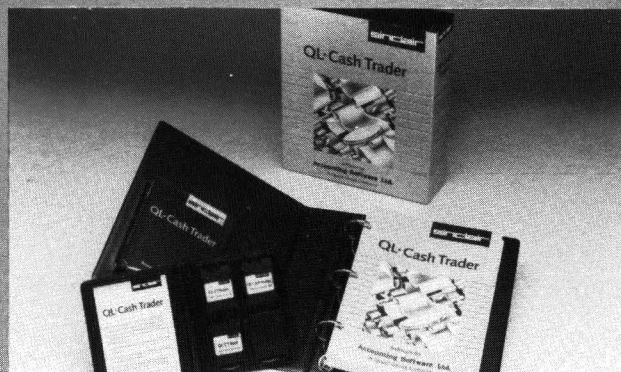
News for the QL user

QL steals the show

Support for the Sinclair QL was very much in evidence at the Personal Computer World Show in London.

A large number of companies showed disk interfaces, disk drives, memory expansion units, printers, parallel printer interfaces, multiple expansion units, dust covers and a quantity of software for the QL.

Although we didn't expect to spend much of our time selling things at the show, a large number of people also bought QLs (at the new £199.95 price) from the stand. We welcome those people to QLUB and hope they will get as much enjoyment and use out of the machine as long-term QL users.

On the software side, many people ex-pressed an interest in the Triptych series of business programs (featured in last month's issue of QLUB News) and in the communications software which accompanies the Q-CONNECT communications system from Tandata.

Third-party software houses, such as Microdeal, took the opportunity to show both new business and games sofware. Microdeal's Lands of Havoc game (complete with a number of 'playing boards' which guide you round the said Lands) was notable in the interest it generated with the public.

In Issue 5, we offered £100 worth of free QL software to the person who answered a number of skill testing questions. We received a number of correct entries and drew the winner from among them. The recipient of the free QL software is Martin Miller of Cowes, Isle of Wight.

QL price less than £200

As you are no doubt well aware by now, the recommended retail price of the Sinclair QL has been reduced to £199.95 (including VAT).

This price became effective as of September 2, 1985 and was made possible by the savings inherent in volume production of the QL. It has always been Sinclair Research's policy to pass along any savings we were able to make in production or manufacture – from the first price reductions on the ZX-81 to the latest volume discounts on the QL.

Sinclair products have always been designed with low price as a major criterion and we have always taken advantage of any opportunities to increase the affordability of our products. QLUB and QLUB News are another example of that policy in action.

Through the discounts offered to QLUB members (see Special Offer Office on the back page of this issue) and the option of ordering software directly from Sinclair Re-search, we have tried – and will continue to try – to make QL software and hardware add-ons as inexpensive as possible for our users.

sinclair

New price — new users

As you are no doubt well-aware by now, Sinclair Research recently made a substantial cut in the price of the QL – a cut some of you may well have benefitted from. But keep in mind that much of the reason for the price drop was the loyal support of users who have been purchasing the machine from the moment it was launched.

We have now been able to achieve the economies of scale which have afforded us the opportunity to bring down the price of our flagship professional computer. "We have also been able to cut costs through increases in manufacturing efficiency based on experience gained in making QLs over

the last year and a half," said Jane Boothroyd, Sinclair's UK sales and marketing manager.

The new-price QL means that everything from a dedicated word-processing system to a mainframe computer terminal can be built from the QL base for less than £500. A QL with hard disk, professional monitor, business software and monochrome monitor now comes out cheaper than most entry-level IBM PC-type computers, while the power of the 68008 processor and the built-in Microdrive storage is available to those wishing to concentrate on leisure pursuits.

In recognition of this versatility, Sinclair Research offers expansion options for the QL. There is a disk drive system, professional monitor and now a near-letter-quality printer. Third-party peripheral houses also offer a range of memory upgrades, parallel printer interfaces and communications equipment. In short, the QL has come of age.

Q LETTERS

Help find a hot QL

We recently had stolen from our office a QL, reference No. DO6-006163 together with an Epson MX80 printer and a Philips TP200 monitor. We would be glad if you would publish the above details and serial number, in case anybody tries to sell it or obtain the necessary cables.

Robert Platt
Eurospin Textiles,
Manchester

Daisy step dilemna

I have a DaisyStep 2000 working through a parallel interface on Ser 1 port. It responds well to the "Brother 15" printer driver in the Psion programs, given a minor adaptation or two; but I had a fair amount of difficulty in getting any reasonable response when working in SuperBASIC. That can be cured by OPENing #3, SER1C (but why is that solution so un-obvious in the Manual?), and changing the dip-switches on the printer to 'CR + LR'. The printer drivers on the Psion programs then have to be changed, so that the end-of-line code is 'CR' – 'LF' if ser1C is specified. The trouble then is that there is no simple way of getting a plain 'carriage return' on the printer, which can be very useful in Archive procedures. That can be overcome, of course, by further deviousness: but it would be much better to be simple!

If the Psion programs can change the end-of-line codes at will, is there no printer

driver available for SuperBASIC that will avoid all this mechanical translation back and forth? All the installed printers in the Psion programs have "CR, LF" as their end-of-line codes. Why is it then so difficult – or so circuitous – to use this in SuperBASIC? Help!

The Reverend Dr M B Moreton
Banbury, Oxon

Ed's reply: I'm afraid there is no other way of getting round the problem you have outlined other than using SuperBASIC. You can, however, make this process slightly more efficient by writing a small SuperBASIC program that will read in each line of a program listing, send it to the printer, add a carriage return and a line feed and then send the next line of program.

Quill text overspill

I have been using QL Quill for some time, and as my text files have grown I have encountered a problem: above a certain size, QL Quill files will not fit on the same Microdrive as the word processor's workspace file def _ tmp.
I have found two solutions to this difficulty:
1. Once QL Quill has loaded, remove the Microdrive from Microdrive slot 1, and insert the text file Microdrive instead. Place an empty Microdrive (to hold def _ tmp) in Microdrive slot 2, then load the text file. All facilities of QL Quill will be available, with the exception of Printing and Help. Printing can be achieved when a file has been saved, by placing the file's Microdrive in Microdrive slot 2, and replacing the QL Quill Microdrive in Microdrive slot 1, so

giving QL Quill access to printer data files.
2. Plug a ZX Microdrive unit into the QL's Microdrive expansion port (on the right hand side of the case), and use this as mdv 3_: text files can then be loaded from mdv 3_, with the empty Microdrive for def _ tmp in Microdrive slot 2, and QL Quill remaining in Microdrive slot 1. It was a surprise to find that Spectrum Microdrive units were compatible with the QL – is this intentional?

Stephen Zara
Dept. of Pure and Applied Biology
Imperial College, London

Ed's reply: The mechanisms for the QL and Spectrum Microdrives are much the same, although Microdrive cartridges formatted for use with the Spectrum cannot be used with the QL – and vice-versa. We do not currently recommend the use of Spectrum Microdrives with the QL, although we understand that this arrangement has worked satisfactorily for a number of users. If your use of QL Quill is as heavy as this, we would suggest a floppy-disk arrangment might prove more satisfactory. It is in recognition of some users' specialised needs that Sinclair has endorsed the Micro-Peripherals disk drive unit.

HARDWARE UPDATE

Sinclair Research is happy to announce that an agreement has been completed which will allow us to offer a high-quality printer for the QL. The Near-Letter-Quality (N.L.Q) printer will be available for £249 (including VAT) through Sinclair stockists from the beginning of November.

And we can now give you the long-promised details on the machine, including everything from its specifications to how it works. The first thing you'll notice about it is that, like the QL, the printer is small and compact.

The printer is styled in QL black. It is only 390 mm wide, 119 mm high and 266 mm across and weighs less than 5 kilograms. A wide variety of paper types can be used as paper is accepted either by friction feed or tractor feed.

For experts in such things, the line feed pitch is a minimum of $\frac{1}{216}$ of an inch (and you can designate the pitch in further units of $\frac{1}{216}$ of an inch) and the line feed speed is 6.7 lines/second (at 6 lines per inch) and 10 lines/second (at 9 lines per inch).
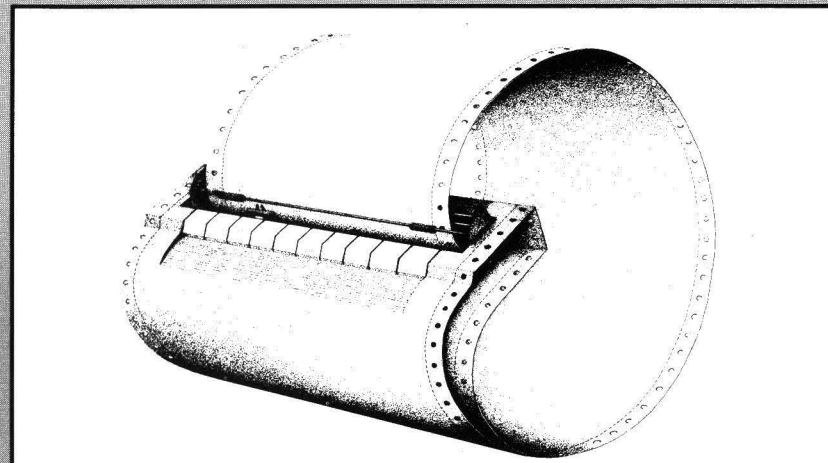
You can use carbon-paper with the printer – allowing you to make up to two additional copies of a document while printing – as long as the total thickness of the paper and carbon doesn't exceed 0.2 mm. The printer's ribbon is cassette-style and operates only in black.

The ribbon should last for at least 2.5 million characters – typically 800 pages of solid text – based on tests conducted with the printer running a 'self-test' continuously in draft mode calculating a matrix of 5 x 7 dots (with 14 dots/character).

A variety of character styles are available including high-quality, proportional (where software has been written to take advantage of this facility) and graphics printing. The graphics printing means that 'screen dumps' from the QL can be made and printer graphic routines can be written to accomplish specialised tasks (such as writing and defining your own character set).

The Sinclair Vision QL monitor (pictured above) is now available to QLUB members at a substantial discount off the retail price. MBS Data Efficiency is offering the machine at £259 (including VAT, post and packing) to QLUB members — a saving of almost £50 off the regular retail price. To order this specially-produced monitor, send your cheque to MBS Data Efficiency Ltd., 1 Finway Road, Hemel Hempstead, Herts. HP2 7PS

Owl and the QL

Owl Computer Training is offering QL training courses. The normal price for a single day's training is £62.50 + VAT, and the Introductory and Archive courses are normally bookable only as 2-day chunks. As a special offer to QLUB members any day can be booked at £55.00 + VAT and the Archive and Introductory courses can be split into single days, again at £55.00 + VAT per day.

It may also be of interest that a set of Distance Learning Packs on the four Psion programs should be published in the Autumn.

★ A discount is available for a year's subscription to EMAP's *QL User* magazine. A year's subscription including delivery normally would cost £15. If you subscribe through QLUB, the magazine will be delivered for an all-in (postage included) price of £11.50. To receive your 12 issues, send a cheque or money order for £11.50 to PRQL, Subscription Department, QL User, Priory Court, 30/32 Farringdon Lane, London EC1.

Programmer's forum

Welcome to the QLUB programming forum, where we answer your programming questions and you solve those of other QLUB Members.

All Greek to me!

Following your compelling "Please write" item in the latest issue of QLUB News, may I be excused if I do so in the hope of enlightenment on the following matters:

1. The character set produced on screen by my QL is not in accord with that given in the 'Concepts' section of the QL User Guide. They are the same up to decimal 130, from 144 to 162 and from 179 upwards. The characters in the guide from 131 to 142 and from 163 to 177 appear on screen for decimals 132 to 142 and 164 to 178 respectively. The character for 143 in the guide is that for 131 on the screen while 178 in the guide is Greek and 163 on the screen is E. Is there an error in the guide or is my QL faulty?

2. Despite reading a number of articles on machine code, I have made little progress in understanding this topic as I have seen no explanation of what must be elementary points. Take Listing 1 on page 9 of QLUB News, Issue 6, for example, are the statements shown machine code or assembly language and is everything keyed into the QL exactly as shown? Are line numbers required?

Does an assembler, eg QSNAIL given in QL User magazine, have to be loaded beforehand or afterwards and how is the program run? If it would be possible to lay down a simple drill, this would be greatly appreciated.

J S Hay
Bracknell, Berkshire

Reply: There were small errors regarding the character set in early editions of the QL User Guide and the ones you speak of are among them. As for machine-code programs on the QL, we suggest you get a good introductory guide to machine code programming on the QL – such as Assembly Language Programming on the Sinclair QL by Andrew Pennell (published by Sunshine books) or QL Assembly Language Programming by Colin Opie (published by McGraw-Hill).

Please Persuade my printer

You will be pleased to know that I am writing to you with the aid of my QL, Quill and Brother HR-25 Printer. (See Fig. 1 for HR-

```
Cassette No 5, Code "mdv2_HR25_doc" (double line spacing)
       SINCLAIR COMPUTER to BROTHER HR-25 PRINTER.

                    QUILL Version 2.00

          "install_bas" Data as set on 11th July 1985.
    Driver Name           BROTHER HR-25

    Port                  Ser 1

    Baud Rate             9600

    Parity                EVEN

    Lines/Page            84

    Characters/Line       198          (Keying)
    Continuous Forms      NO           (Instructions)

    End of Line Code      CR,LF        13,10

    Preamble Code         ESC,CR       27,13

    Postamble Code        FF           12

    Bold ON               ESC,F        27,70

    Bold OFF              ESC,&        27,38

    Underline ON          DEF          DEF

    Underline OFF         DEF          DEF

    Subscript ON (Red ON) ESC,A        27,65

    S/cript OFF (Red Off) ESC,B        27,66

    Superscript ON        ESC,D        27,68

    Superscript OFF       ESC,U        27,85

    Translate 1           £,#          96,35

    Translate 2           #,ESC,Y      35,27,89

    Translate 3           NONE
                    ****************
    (Translate 1 prints a £ sign with the £ key)

    (Translate 2 prints a # sign with the # key)

    (Typeface L(ow) script writes in RED INK)        Figure 1.
```

25 printer settings) and that I now have a couple of questions.

1. If I wish to know what is on a Microdrive cartridge I use the DIR keyword, and the list of contents appears on the screen. Question – how can I persuade my printer to print this list?

2. I read with interest and perplexity articles about "Machine Code", but they seem to be somewhat esoteric (QLUB News, Issue 6 for instance). When I try to copy them, say, the listing on page 9, I cannot get the computer to accept such listings as they are written. The computer will take: –

```
100 SIZE 300
110 STACK EQU -50
```

But it will not take:

```
120 IO.OPEN EQU 1
```

in this particular form.

How do I get the computer to accept such listings?

Frank Rodgers
Kelsey, Lincoln

Ed's reply: Your directory problems are relatively easily solved. The QL is what is known as 'device-independent' which means that information generated on the QL can be directed to and from a wide range of 'devices' such as a screen, Microdrive cartridge or printer. All you need to do is open a channel to the serial port – assuming that's where your printer is – and send the directory to it. For instance, if you did an OPEN#3,ser1 to open serial port 1, you would list the directory to it by typing dir#3 mdv1_. As for your machine-code problems, I would again suggest reading a good introductory book on machine-code as it's one of those subjects you can never know too much about before you begin.

When Quill stands still

I have just written one document of about 20 pages (double spaced) and another of about 5 using my QL Quill and had saved both successfully to Microdrive (the same one).

I wanted to tack the second on to the first, so I put the cursor at the end and used the "Merge" command (for the first time). It seemed to work OK: I ended up with one document which looked OK on the screen, a bit over 6000 words in length.

I then tried to save it under the name suggested (that of the first document) and got the message after a few moments: "file i/o incomplete – press space bar". I kept trying to save it but each time the same thing happened. Thinking the new cartridge might be too full, I then tried saving it to a newly formatted one in Microdrive 1, but got the same message.

The only way I could get out of the "Save" command then was by pressing ESC: that got me back to Quill but also (I discovered) destroyed the combined document AND the original first document. Luckily I had backup copies, so I tried again.

Again, it appeared to merge OK, although I noticed that the paragraphs of the original second document started on screen at the first tab stop, not at the indent margin set (which they had done originally). I corrected that and made one or two minor alterations to misspellings; then, determined not to be caught out again, I decided to print the combined document BEFORE saving it.

When I did so I found that all underlinings, bold and high script had disappeared, and that everything was printed in normal type – even though these effects had printed successfully when I had previously produced copies of the two separate documents, AND the bold, underlining, etc were still displayed on the screen! (The printer was not at fault: I have checked that it is working perfectly, as you can see by this letter.)

Incidentally I have since realised that headers have NEVER printed out bold, even though that is the default setting (I had not realised they were supposed to!); but footers have, and in all other respects the print effects have worked previously – and subsequently – without a hitch.

I then tried a second printing, with the same effect; and then I tried saving the document, again with the result that I lost it and the original, even though this time I tried different file names, etc. My use of the "merge" command has therefore been pretty disastrous so far: I have ended up with one faulty printed copy of the total document and the original parts of it erased from the cassettes.

I have read the relevant bits of the manual several times and still cannot see what I did wrong. Have other people reported this difficulty? Or is it my version of Quill at fault (Version 2.00)? I should add that my work regularly involves producing long articles of up to 10,000 words, and that I bought a QL deliberately because of Quill's supposed capacity to construct relatively lengthy documents from several shorter ones (so the salesman said!). If using "merge" is not the way to do it, what is?

John Hostler
Romiley, Stockport

Ed's reply: The problem you have has nothing to do with the merge command. Just before Version 2 of QL Quill was released, an improvement was made to speed up the saving of documents. Unfortunately, this had the side-effect of introducing a bug which gives an error such as you found. The bug takes effect when the length of the document exceeds 10-20 pages in QL Quill.

There is, however, a 'patch' which Psion has produced which removes the speed improvement – but does allow for the use of longer documents.

To use the patch, type in the SuperBASIC program in Fig. 2. Check it carefully, especially the numbers in Lines 40 and 50, and save it just in case. Place a Microdrive cartridge with a backup copy of QL Quill into the left-hand drive and type 'RUN' to apply the patch. If it fails for any reason, reset your QL and check the program again. The program checks the code to be patched and so you are in no danger of patching the wrong program or the wrong version of QL Quill. Figure 3 shows a similar program designed to handle the problem which occurs when a data file in Archive becomes larger than 32K (i.e. the program will fail to save it when you close the file). This SuperBASIC 'patch' will fix the problem.

```
10 a=RESPR(55*1024)
20 b=15584+a
30 PRINT "Loading....":LBYTES mdv1_quill,a
40 IF PEEK_W (b)<>20154 OR PEEK_W (b+2)<>2192 THEN GOTO 80
50 POKE_W b,20081:POKE_W b+2,20081
60 PRINT "Saving...":DELETE mdv1_quill:SEXEC mdv1_quill,a,
51760,1280
70 PRINT "Finished":STOP
80 PRINT "Wrong Version - This patch only works on QUILL 2.0"
```

Figure 2.

```
100 INPUT "What device is ARCHIVE on? eg MDV1 >";dev$
110 a = RESPR(52*1024)
120 b = 13054 + a
130 PRINT"Loading...":LBYTES dev$&"_archive",a
140 IF PEEK_W (b)<>20154 OR PEEK_W(b+2) <> 2774 THEN GO TO 180
150 POKE_W b,20081:POKE_W b+2,20081
160 PRINT"Saving...":DELETE dev$&"_archive":SEXEC dev$&"_archi
ve",a,51474,1280
170 PRINT"Finished":stop
180 PRINT"Wrong Version - This patch only works on ARCHIVE 2"
```

Figure 3.

SOFTWARE UPDATE

A good deal of software, of all types, has now been developed for the QL. The most crucial software for programming enthusiasts is that which allows them to exploit the power of the QL hardware design and the nature of the 68000-family microprocessor.

In addition to the QL Technical Guide, QL Monitor and QL Assembler Sinclair Research also offers QL Toolkit to make programming easier.

The starting point for this clientele has to be the QL Technical Guide (available to QLUB members for £11.95 from Sinclair Research). The guide is written by the two men chiefly responsible for the QL hardware and software development, Tony Tebby and David Karlin. Listen to what they have to say about the book:

"This guide describes the methods which may be used for machine code programming on the QL. Its contents are also relevant to compiler writers who must implement a run-time library for other languages. This guide describes only those techniques which are specific to the QL. It does not contain a general description of 68000 or 68008 assembly language programming; this information can be obtained from a number of different sources, details of which may be found in the bibliography. It is, therefore, strongly recommended that a reference book describing 68000 assembly language be consulted before attempting to understand this guide."

With that proviso, the authors begin an introduction to the QL Qdos which lays bare the basic principles and layout behind this single-user, multi-tasking operating system. They suggest that Qdos can be thought of as:

1) A set of useful routines for performing functions such as memory allocation, Input/Output and the like.

2) A mechanism for maintaining lists of things to be done on CPU interrupt, including the function of allocating slots of time to programs which require them.

3) A mechanism for starting up the computer — and determining the configuration of any add-on hardware connected to it.

All those perceptions – as well as many others – are catered for as the reference work covers Qdos device drivers, directory device drivers, built-in device drivers, interfacing to SuperBASIC, hardware-related programming, adding peripheral cards and other burning issues.

With the QL Technical Guide in one hand, you'll probably want something else to fill your other one. Well, have no fear, Sinclair Research has a wide range of other programming tools from which to choose.

One that might immediately catch the attention of the QL Technical Guide reader is QL Monitor, written by Technical Guide co-author Tony Tebby. The author describes this as;

"A machine-code level monitor/debugger designed specifically for the QL and its operating system Qdos. By taking full Monitor advantage of the Qdos environment, QL
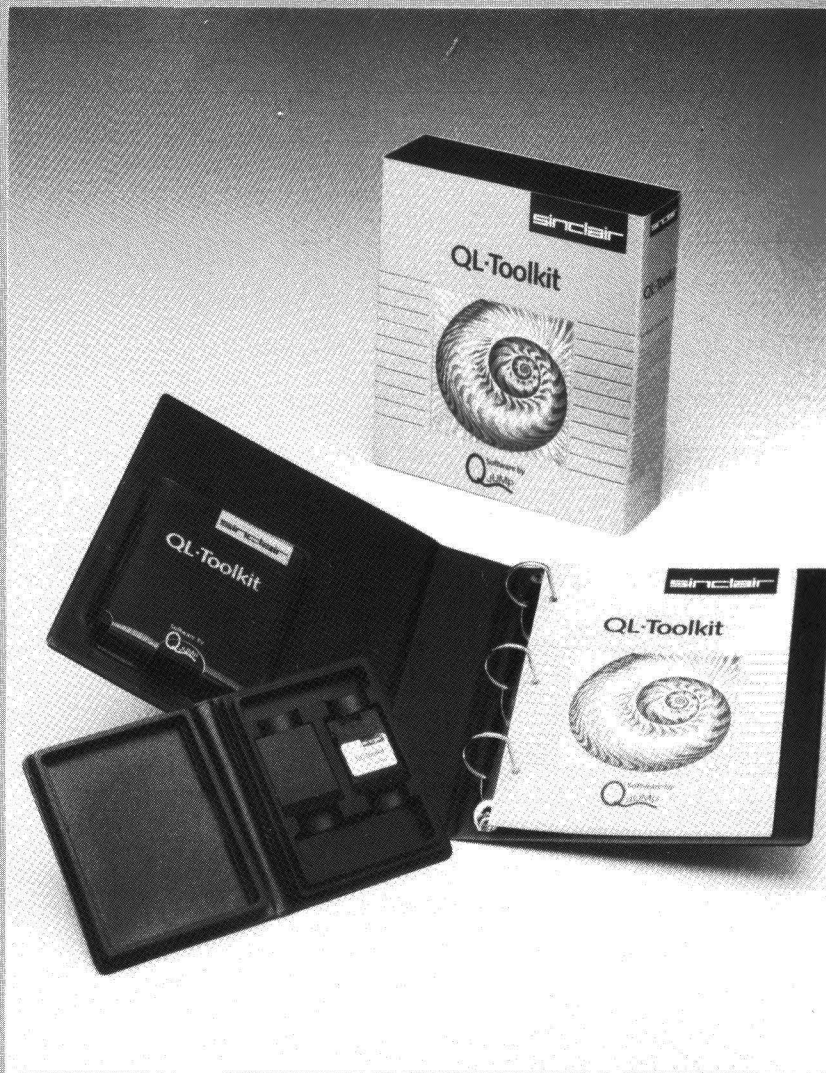
Monitor can monitor just one job in the QL, or as many jobs as are executing at one time. It is possible to trace the execution of jobs skipping the entries into Qdos, or, if required, QL Monitor can trace execution right through the operating system.

"QL Monitor does not interfere with Qdos, so it is entirely feasible to examine one job in the QL, while other jobs continue unimpeded. QL Monitor provides a very wide range of facilities for monitoring, single and multi-stepping, tracing and breakpointing jobs and procedures, as well as the usual facilities for examining and altering jobs, procedures and data structures.

"The full version, including a complete MC68008 single-line assembler, editor and disassembler, occupies only 10K bytes while a miniature version (called QMIN) takes 4K bytes but does not have the assembly language facilities."

You may also wish to find room for an assembler in your growing collection of programming tools. Sinclair Research's QL Assembler (written by GST Computer Systems) deserves serious consideration in this category.

QL Assembler includes a powerful screen editor and 68000 assembler. Both exploit the full windowing and multi-tasking facilities of the QL, so you can pass from the editor to assembler to SuperBASIC at will.

The full screen editor should make it easy for you to compose your source file in 68000

assembly language, using command features to Search and Replace or Repeat sets of instructions. The assembler will then take the source file the editor creates and convert it to 68000 machine code.

Both the editor and assembler use little memory (21K and 18K respectively). They load completely into memory, allowing the assembler to run quickly. Detailed documentation – along with a full list of equivalences – are included.
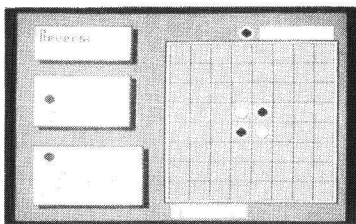
As outlined in our Special Offer Office (see back page), DRK's Microdrive holder — pictured opposite — is offered to QLUB at a discount.

Playing QL·Reversi
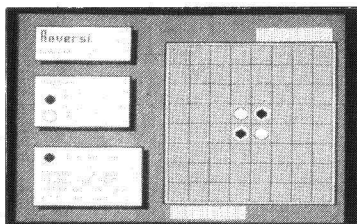
■ The game starts with four pieces in the centre of the board. QL Reversi also lets you change the start positions so you can experiment with solving problems.

■ The player who has the black pieces moves first. You can choose whether you start or the computer does. Each player's turn consists of placing one new piece.
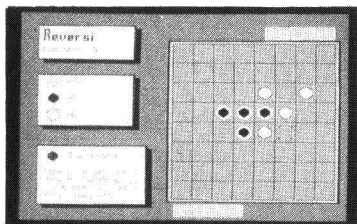
■ The new piece must trap a line of the opponent's pieces between it and an existing piece of the same colour. The trapped pieces then change colour.
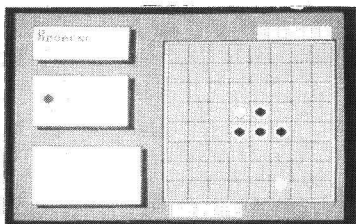
■ The game is marked by dramatic reversals of fortune as each piece is put down so that it will trap as many of the opposing player's pieces as possible.
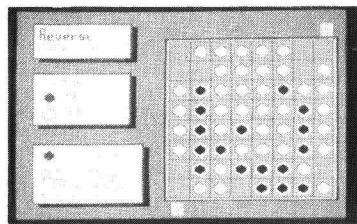
■ The corners are particularly valuable as they control long lines in three directions and pieces placed there cannot themselves be surrounded and taken.
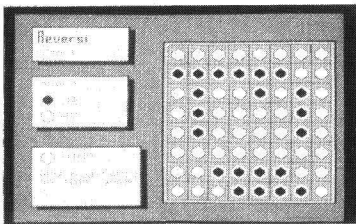
■ The winner is the player who finishes the game in control of the most squares – which can change right up until the very last piece is placed.

QL turns the tables

If you're not feeling up to programming – or just want a recreational break from it – then you may be interested in QL Reversi from Sinclair Research (not to be confused with any similar versions of this program also available for the QL). The recently-released program has been written by the Games of Skill software house and is based on the nineteenth century board game also known as Othello.

To win, you must trap a line of the opponent's counters between your piece and an existing piece of the same colour. If this is achieved all the trapped pieces change to your colour. And because you can change a whole line of pieces by merely placing a single 'stone', the fortunes of the game can swing wildly between you and your electronic opponent.

The program was developed using Artificial Intelligence concepts that 'taught' the QL about Reversi, and then left it to get on with gathering the knowledge it needed in order to develop a series of rationale and strategic responses. As a result, the program will challenge even the toughest of minds – although the choice of nine different skill levels (from Novice to Expert) means that you aren't constantly going to take a beating at the hands (or keys) of the QL.

QL Reversi sells for £12.95 and may be ordered using the coupon at the back of this newsletter.

Special Offer Office

The Special Offer Office keeps track of all deals and discounts for QLUB members, which includes anybody who is sent this newsletter. Listed below are the deals offered to members:

★ GST Computer Systems is offering its acclaimed 68K/OS operating system for the QL at a 20 percent discount. For details, write to GST Computer Systems, 8 Green Street, Willingham, Cambridge CB4 5JA or telephone Jane Pateman on 0954-81991. Have your membership number and address to hand.

★ Westway software is offering its new machine-code arcade game, EVA, at a discount to QLUB members. The game sells for £10.95 but QLUB members can buy it for £1 off that price. Send your orders to QLUB Special Offer, Westway, 24 Preston Road, Lytham, Lancashire.

★ DRK Products Ltd is offering its Microdrive-tidying racks to QLUB members at a 20 percent discount off the normal £4.95 price. This simple rack can be affixed to your QL, just above the keyboard. To order, send your £3.95 (per rack) to DRK Products Ltd, Bar One, Pipers Lane, Caddington Common, Near Markyate, Herts AL3 8QF or call on 0582-840402.

★ Duckworth Publishers offer a 20 percent discount on Adam Denning's new book, Advanced QL Machine Code. The retail price is £8.95 but QLUB members can obtain the book at £7.16. Contact Duckworth Publishers, Sales Department, The Old Piano Factory, 43 Gloucester Crescent, London NW1 or telephone 01-485 3484.

★ A 20 percent discount is available on selected items of QL software sold by Sinclair Research through QLUB.
QL Technical Guide, QLUB price £11.95.
QL Monitor, QLUB price £19.95.
QL Assembler, QLUB price £31.95.

Send your order, using the form on page 12, to Sinclair Research, Stanhope Road, Camberley, Surrey GU15 3PS.

Apology

'In QLUB News, Issue 7 (Sept/Oct 1985) Special Offer Office stated that Metacomco offers a 20 percent discount on selected software. This offer, in fact, ended on August 15 and should not have appeared in that issue of QLUB News. We apologise to Metacomco and to any readers who were misled by this mistake.

QLUB product order form

To order DIRECT FROM SINCLAIR RESEARCH Ltd
Complete the coupon below

Product Code	Title	Quantity	Price	Total
6509	QL Technical Guide		£11.95*	
5501	QL Assembler		£31.95*	
5509	QL Monitor		£19.95*	
5514	QL Cavern		£12.95	
5515	QL Gardener		£24.95	
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